



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/486,890	05/26/2000	RYOUMEI OMOTE	00177/530850	2420

7590 11/04/2004

WENDEROTH LIND & PONACK  
2033 K STREET NW  
SUITE 800  
WASHINGTON, DC 20006

EXAMINER

PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. Box 1450  
ALEXANDRIA, VA 22313-1450  
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/486,890  
Filing Date: May 26, 2000  
Appellant(s): OMOTE ET AL.

**MAILED**  
NOV 04 2004  
**GROUP 1700**

\_\_\_\_\_  
Michael Davis  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 9/1/2004.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that the claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,225,273	MIKOSHIBA	7-1993
5,411,792	YUKINOBU	5-1995

**(10) Grounds of Rejection**

The following grounds of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 16, 19, 23, 26, 28, 30, 32-33, 36, 38, 40, 42, 44-45, 52 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,225,273 to Mikoshiba et al. (hereinafter referred to as Mikoshiba) in view of Applicant's Disclosure.

Regarding claims 16, 19, 23, 26, 28, 30, 32-33, 36, 38, 40, 42, 44-45, 52 and 54, Mikoshiba discloses that it is known in the art of touch panels (column 1, lines 14-23) to form an ITO transparent conductive electrode film by sputtering followed by aging performed at a temperature of around 150C (column 9, line 32 through column 10, lines 64).

Considering that the ITO transparent conductive electrode film taught by Mikoshiba is formed by a substantially identical method compared to the method utilized by the current applicant (see Examples 1-4 on pages 38-46 of the current specification), it appears that the ITO electrode of Mikoshiba possesses the claimed surface roughness properties.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Mikoshiba does not mention the a specific touch panel structure, but the current applicant discloses that a typical resistor-film analog type transparent touch panel has a lower electrode and an upper electrode stacked so as to be spaced from each other by spacers, the transparent conductive film being provided on an electrode substrate of at least one of the electrodes forming the electrode and thereby forming the electrode (see page 2, lines 11-23). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the touch panel structure disclosed by the current applicant, as the touch panel structure of Mikoshiba, because the touch panel structure disclosed by the current applicant is a typical resistor-film analog type transparent touch panel structure.

Regarding claims 28, 30 and 32, considering the substantially identical ITO film of Mikoshiba, compared to the ITO film claimed by the current applicant, it is the examiner's position that the film of Mikoshiba is identical to or only slightly different than the claimed film prepared by the method of the claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The

patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). Mikoshiba either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the Mikoshiba.

3. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikoshiba in view of Applicant's Disclosure as applied to claims 16, 19, 23, 26, 28, 30, 32-33, 36, 38, 40, 42, 44-45, 52 and 54 above, and further in view of USPN 5,411,792 to Yukinobu et al. (hereinafter referred to as Yukinobu).

Mikoshiba discloses the use of an ITO transparent conductive film, but does not mention the use of a fluorine or antimony doped tin oxide film. Yukinobu discloses that both ITO and antimony doped tin oxide layers (ATO) are used to form transparent electrodes for liquid crystal display panels (column 1, lines 6-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the transparent electrode of Mikoshiba from either ITO or ATO, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

**(11) Response to Argument**

The appellant asserts that Mikoshiba does not teach or suggest the claimed arithmetic mean roughness (Ra) or the claimed root-mean-square roughness (Rms). The examiner respectfully disagrees. Mikoshiba discloses that it is known in the art of touch panels (column 1, lines 14-23) to form an ITO transparent conductive film by sputtering followed by heat aging performed at a temperature of between about 100 to about 250°C (column 9, line 32 through column 10, lines 64). Mikoshiba specifically teaches a heat aging temperature of 150°C in Examples 1-6 (see column 12, lines 43-44 and column 13, lines 55-56).

Examples 1-4 of appellant's specification clearly disclose that a sputter deposited transparent conductive ITO film heat aged at a temperature of about 150°C produces a film possessing a mean crystal size within the range of 40 to 100 nm, an arithmetic mean roughness (Ra) of  $0.4 \text{ nm} \leq \text{Ra} \leq 2.3 \text{ nm}$ , and a root-mean-square roughness (Rms) of 0.8 to 0.9 nm. In comparison, Comparative Examples 1-2 of appellant's specification clearly disclose that a transparent conductive ITO film that is sputter deposited in the same way as in Examples 1-4, except that the heat aging process is omitted, possesses a mean crystal size within the range of 10 to 20 nm, an arithmetic mean roughness (Ra) of  $0.1 \text{ nm} \leq \text{Ra} \leq 0.25 \text{ nm}$ , and a root-mean-square roughness (Rms) of 0.55 nm. Clearly, the heat aging step is directly related to the arithmetic mean roughness and the root-mean-square roughness.

Considering that the ITO transparent conductive film taught by Mikoshiba is formed by a substantially identical method (sputtering followed by heat aging at about 150°C) compared to the method disclosed by the current appellant in Examples 1-4, it appears that the transparent

Art Unit: 1771

conductive film of Mikoshiba possesses the claimed arithmetic mean roughness and root-mean-square roughness.

Mikoshiba also discloses that the transparent conductive electrode may comprise crystal grain aggregates (see the paragraph bridging columns 3 and 4). Considering that the appellant discloses that the presence of crystal grain aggregates is responsible for the currently claimed arithmetic mean roughness and root-mean-square roughness (see page 19, line 23 through page 20, line 7 of appellant's specification), it appears that the transparent conductive film of Mikoshiba possesses the claimed arithmetic mean roughness and root-mean-square roughness.

In response to the examiner asserting that the transparent conductive film taught by Mikoshiba is formed by a substantially identical method compared to the method utilized by the current appellant, the appellant asserts:

**"the film of Mikoshiba et al. is formed by sputtering or ion-plating.**

**On the other hand, all of the method of production claims in the present application require a coating or printing process using a sol-gel material to form the film having the recited roughness characteristics. Therefore, contrary to the position taken by the Examiner, the film taught by Mikoshiba et al. is not formed by a substantially identical method compared to the method for producing the film of the present invention (emphasis added)."**

The appellant is correct in asserting that all of appellant's method of production claims require a coating or printing process, but the appellant neglects to comment on the other methods of production disclosed but not claimed by the appellant. In the Final Office Action mailed on 12/10/2003, the examiner specifically stated that the transparent conductive film of Mikoshiba is



Art Unit: 1771

formed by a substantially identical method compared to the method utilized in Examples 1-4 on pages 38-46 of appellant's specification. In Examples 1-4 of appellant's specification, sputtering production methods are used to deposit the transparent conductive films. These sputtering production methods are substantially identical to the sputtering production methods taught by Mikoshiba and these sputtering production methods produce transparent conductive films possessing an arithmetic mean roughness (Ra) of  $0.4 \text{ nm} \leq \text{Ra} \leq 2.3 \text{ nm}$  and a root-mean-square roughness (Rms) of 0.8 to 0.9 nm.

The appellant has failed to show, or attempt to show, a distinction between the sputtering methods disclosed in Examples 1-4 of appellant's specification compared to the sputtering production methods taught by the applied prior art. Absent such a showing, there is more than sufficient evidence to suggest that the transparent conductive films taught by the prior art inherently possesses the claimed arithmetic mean roughness and root-mean-square roughness.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

g7B. 10/25/04  
ANDREW T. PIZALI  
PATENT EXAMINER

atp  
October 25, 2004

Conferees  
Terrel Morris - *TM*  
Harold Pyon *HP*

*Terrel Morris*  
TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

WENDEROTH LIND & PONACK  
2033 K STREET NW  
SUITE 800  
WASHINGTON, DC 20006